

Presentation of an unusual metallic foreign body in a child

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ABSTRACT

Ingestion of foreign object is a common problem with children. These foreign bodies (FBs) can be in the respiratory tract of the aerodigestive tract. A 14-month-old male child presented to the emergency department of our hospital at 6.30 pm with irritability and continuous crying. On radiology, we found that the metallic body in the shape of a cycle was lodged in the upper esophagus. We decided to remove the FB endoscopically using an esophagoscope. We used meticulous and gentle manipulation around the edge of the metallic FB and did over a sufficient amount of time so as to dislodge the body from the impacted esophageal mucosa without causing any trauma or bleeding from the adjacent site. The child was placed under overnight observation in the hospital. The stay in the hospital was uneventful, and the child was discharged the next day. We would like to present this case due to unusual shape and nature of the FB and the difficulty encountered in clinical management of the patient.

Keywords: Esophagus, foreign body, metallic toy

Introduction

Ingestion of foreign object is a common problem with children. These foreign bodies (FBs) can be in the respiratory tract of the aerodigestive tract. They are classified as organic FBs (such as nuts, legumes, seeds, or chicken) or inorganic FBs (such as toys, pen tops, battery, or stones/shells).^[1] The FBs in the gastrointestinal tract are commonly located in the esophagus and the stomach.^[2] Esophagoscopy remains a useful method for the removal of these FBs with success rates of higher than 90%.^[2,3] We present a case of an unusual FB lodged in the esophagus in a child.

Case Report

A 14-month-old male child presented to the emergency department of our hospital at 6.30 pm with irritability and the child was continuously crying. The child had ingested a small

metallic toy – a decorative item attached to the upper pocket of his shirt – about an hour ago. We found that the vital parameters (pulse, blood pressure, and respiratory rate) were normal and stable. However, the child had continuous drooling of saliva, potentially indicating an inability to swallow. Based on these findings, our primary goal was to determine the position of the FB by a radiological examination and manage the child appropriately.

We found that the metallic body in the shape of a cycle was lodged in the upper esophagus [Figure 1]. We decided to remove FB endoscopically using an esophagoscope under general anesthesia. The child was placed in a supine position with an extended neck. Two anesthetists monitored the child for vital parameters (heart rate, blood pressure, and respiratory rate) and management of endotracheal tube ventilation. The FB was dislodged from the esophageal wall, and the procedure was atraumatic. Due to the shape of the metal, we faced difficulties during removal. Thus, we used meticulous and gentle manipulation around the edge of the metallic FB and performed the procedure over a sufficient amount of time so as to dislodge the body from the impacted

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Figure 1: Photograph of the X-ray with the cycle-shaped foreign body in a child

esophageal mucosa without causing any trauma or bleeding from the adjacent site. On removal, we found that the FB was about 1.5 inches in size [Figure 2]. The object was made of aluminum with a probable mixture of other unknown metals. We finished the removal of the FB in 20 min. The entire procedure from intubation to extubation lasted for 45 min. The oxygen saturation was maintained at 100% for the entire duration of the procedure.

The child was conscious immediately after the procedure, was fed in the postoperative period, and was advised overfeeding for the initial 6 h. The child tolerated these feeds well, and there was no breathlessness or irritability. We did not repeat a radiological examination as the child was stable, the FB was completely removed, and we did not want to expose the child to additional radiation.

The child was placed under overnight observation in the hospital. The stay in the hospital was uneventful, and the child was discharged the next day. The child was advised to follow-up if there were any symptoms of breathlessness or difficulty in swallowing. The child had not followed up with any complaints till the time of manuscript preparation.

We have taken a written consent from the legal representative for publication of the clinical presentation and images.

Discussion

We would like to present this case due to unusual shape and nature of the FB, and the difficulty encountered in clinical management of the patient.

Although food articles – particularly nuts and seeds – are common sources of FB in airways, recently, there have been a lot of data on the FBs in the aerodigestive tract.^[1,4] For instance, the Susy Safe Project is a surveillance system on the food and nonfood FBs in children.^[5] A previous study found that the common area for location of the FB was the esophagus in



Figure 2: Photograph of the cycle-shaped foreign body after removal

Thailand, whereas in some of the European countries, it was frequently the nose.^[6] In general, however, the injuries were common in males and children under the age of 3 years^[6] – as was the scenario with our patient.

Esophagoscopy has been used for the removal of FB in early age group infants for a very long time.^[7] Access to the FB and minimal damage to the esophageal mucosa were important in our patient, particularly due to the young age of the child. It has been reported that rigid esophagoscopy is a very successful method of removing FBs even if they are chronic in nature.^[3,8] However, one has to be careful to avoid some common complications such as esophageal rupture, mediastinitis, strictures, and fistulas.^[8] Thus, rigid esophagoscopy requires important skills, particularly in young children – particularly when the FB has a peculiar shape and irregular margins (as seen in our patient). If, however, the esophagoscopy fails, then a surgical neck exploration may also be required.^[8]

Another important issue is the policy for clothes and accessories in young children. Some of the common FBs in children are coins, pearls, and stationery items.^[9] However, accessories on clothes and toys could be additional sources of FBs. Foltran *et al.* have suggested that industrial regulation for toy manufacturers should be coupled with awareness and training for surveillance and child care.^[4] We would like to suggest the same for regulating the clothing industry so as to avoid preventable ingestion of FB attached as accessories on these clothes.

To the best of our knowledge (even after an intensive internet search), we found only such case in the past (we could not locate the documentation of the same) on the Internet.^[10] Thus, this is an extremely rare type of FB in the literature. Furthermore, we have also provided a complete image of the body after its removal.

Conclusion

We would like to highlight the unusual nature of the FB in a young child. Furthermore, radiological examination and

esophagoscopy are useful in removal of such FBs. There is a need for appropriate legislations for the industry to prevent such injuries in children.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

References

1. Foltran F, Ballali S, Passali FM, Kern E, Morra B, Passali GC, *et al.* Foreign bodies in the airways: A meta-analysis of published papers. *Int J Pediatr Otorhinolaryngol* 2012;76 Suppl 1:S12-9.
2. Li ZS, Sun ZX, Zou DW, Xu GM, Wu RP, Liao Z, *et al.* Endoscopic management of foreign bodies in the upper-GI tract: Experience with 1088 cases in China. *Gastrointest Endosc* 2006;64:485-92.
3. Herranz-Gonzalez J, Martinez-Vidal J, Garcia-Sarandeses A, Vazquez-Barro C. Esophageal foreign bodies in adults. *Otolaryngol Head Neck Surg* 1991;105:649-54.
4. Foltran F, Passali FM, Berchiolla P, Gregori D, Pitkäranta A, Slapak I, *et al.* Toys in the upper aerodigestive tract: New evidence on their risk as emerging from the susy safe study. *Int J Pediatr Otorhinolaryngol* 2012;76 Suppl 1:S61-6.
5. The Sudy Safe Project. Available from: <http://www.susysafe.org/index.php?lang=en>. [Last accessed on 2016 Apr 23].
6. Chotigavanich C, Ballali S, Foltran F, Passali D, Bellussi L, Gregori D, *et al.* Foreign bodies injuries in children: Analysis of Thailand data. *Int J Pediatr Otorhinolaryngol* 2012;76 Suppl 1:S80-3.
7. Perrone JA, Cipic JA. Esophagoscopy for removal of foreign body in a seven-month-old premature infant. *AMA Arch Otolaryngol* 1957;65:521-2.
8. Schramm JC, Sewell RK, Azarow KS, Raynor SC, Abdessalam SF. Chronic cervical esophageal foreign bodies in children: Surgical approach after unsuccessful endoscopic management. *Ann Otol Rhinol Laryngol* 2014;123:19-24.
9. Chinski A, Foltran F, Gregori D, Ballali S, Passali D, Bellussi L, *et al.* Foreign bodies in children: A comparison between argentina and Europe. *Int J Pediatr Otorhinolaryngol* 2012;76 Suppl 1:S76-9.
10. X-ray of Child's Oesophagus Showing a Toy Bicycle. Available from: <https://www.pinterest.com/pin/210543351302708677/>. [Last accessed on 2016 May 08].